

MR3029-77

Appl. No. 10/611,896

Response to Final Office Action dated 1 November 2005

AMENDMENTS TO THE CLAIMS

This listing of Claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

Claim 1(currently amended) A thin-film transistor structure ~~, at least essentially~~ mainly comprising:

an insulating substrate;

a gate electrode on said insulating substrate;

a dielectric layer over said gate electrode;

a first semiconductive layer on said dielectric layer;

a second semiconductive layer on said first semiconductive layer;

a first conductive layer on said second semiconductive layer;

a second conductive layer on said first conductive layer, said second conductive layer is used as a source and a drain; and

a third conductive layer on said second conductive layer, wherein said first, said second and said third conductive layers are made of ~~identical metal-based alloy~~ layers having at least one common metal; ~~and~~

wherein an opening through said second semiconductive layer, said first conductive layer, said second conductive layer and said third conductive layer have an opening therethrough and exposing said first semiconductive layer.

Claim 2 (original) The thin-film transistor structure according to claim 1, wherein said gate electrode comprises an AlNd gate electrode.

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Claim 3 (original) The thin-film transistor structure according to claim 1, wherein said dielectric layer comprises a silicon nitride layer.

Claim 4 (original) The thin-film transistor structure according to claim 1, wherein said first semiconductive layer comprises a hydrogenated amorphous silicon layer.

Claim 5 (original) The thin-film transistor structure according to claim 1, wherein said second semiconductive layer comprises an N-type amorphous silicon layer.

Claim 6 (original) The thin-film transistor structure according to claim 1, wherein said first conductive layer prevent said second conductive layer and said second semiconductive layer from diffusing into each other.

Claim 7 (original) The thin-film transistor structure according to claim 1, wherein said third conductive layer is used as a glue layer and protects said second conductive layer from being over-etched.

Claim 8 (original) The thin-film transistor structure according to claim 1, wherein said first conductive layer, said second conductive layer and said third conductive layer comprise a sandwich structure of AlNdN, AlNd and AlNdN alloys.

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Claim 9 (currently amended) A thin-film transistor structure, ~~at least~~ comprising:

an transparent insulating substrate;

a gate electrode on said transparent insulating substrate;

a dielectric layer over said gate electrode;

a first semiconductive layer on said dielectric layer;

a second semiconductive layer on said first semiconductive layer;

a first AlNdN alloy layer on said second semiconductive layer;

an AlNd alloy layer on said first AlNdN alloy layer, said AlNd alloy layer is used as a source and a drain; and

a second AlNdN layer on said AlNd alloy layer; ~~and~~

wherein ~~an opening through~~ said second semiconductive layer, said first AlNdN alloy layer, said AlNd alloy layer and said second AlNdN layer have an opening therethrough and exposing said first semiconductive layer.

Claim 10 (original) The thin-film transistor structure according to claim 9, wherein said first AlNdN alloy layer has a thickness of about 500 angstroms.

Claim 11 (original) The thin-film transistor structure according to claim 9, wherein said AlNd alloy layer has a thickness of about 2000 angstroms.

Claim 12 (original) The thin-film transistor structure according to claim 9, wherein said second AlNdN alloy layer has a thickness of about 500 angstroms.

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Claim 13 (currently amended) A thin-film transistor structure, ~~said thin-film transistor structure~~ comprising:

an insulating substrate;

a gate electrode on said insulating substrate;

a dielectric layer over said gate electrode;

a hydrogenated amorphous silicon layer on said dielectric layer;

an amorphous silicon layer on said hydrogenated amorphous silicon layer;

a first conductive layer on said amorphous silicon layer;

an AlNd alloy layer on said first conductive layer, said AlNd alloy layer is used as a source and a drain; and

a second conductive layer on said AlNd alloy layer, said second conductive layer is used as a glue layer and to protect said AlNd alloy layer from being over-etched, wherein said first and said second conductive layers are made of aluminum-based alloy layers.

Claim 14 (original) The thin-film transistor structure according to claim 13, wherein said first conductive layer prevents said AlNd alloy layer and said amorphous silicon layer from diffusing into each other.

Claim 15 (original) The thin-film transistor structure according to claim 13, wherein said first conductive layer and said second conductive layer comprise AlNdN alloy layers.